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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/450,271	11/26/1999	MANAMI KUISEKO	018656-107	7399

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EXAMINER

THOMPSON, TIMOTHY J

ART UNIT	PAPER NUMBER
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2873

DATE MAILED: 03/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/450,271

Applicant(s)

KUISEKO ET AL.

Examiner

Timothy J Thompson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,9,10,13,14,21-26 and 28-35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,9,10,13,14,21-26 and 28-34 is/are rejected.
- 7) ☒ Claim(s) 35 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 1999 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION***Limitation in the Preamble***

The recitation "for use in an optical pickup", claims 1, 9, 25, 29, has not been given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 25, 33 are rejected under 35 U.S.C. 102(a) as being anticipated by Ikemori (U.S. Patent No. 4,437,746).

Regarding claims 25, Ikemori discloses a lens element for focusing incident luminous flux at a predetermined position(fig 3, **A**), the lens element having a first concave surface (fig 3, **b2**) to the long conjugate distance side and a second convex surface(fig 3, **a2**) and a luminous flux passing through a peripheral part of the first surface is reflected at a peripheral part of the second surface, is again reflected at a

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central part of the first surface(fig 3) imaged on an optical axis of the lens element(fig 3, I), wherein incident luminous flux passing through the light admitting area of said first convex surface is totally reflected on the second reflective coating. is again totally reflected on the first reflective coating and is imaged in the vicinity of the vertex of the second aspherical convex surface(col 2, lines 30-40).

Regarding claims 33, a Ikemori wherein a marginal ray of the luminous flux reflected on the central part of the first surface is totally reflected at the central portion of the second aspherical convex surface due to total internal reflection(fig 3, col 2, lines 30-40).

Claim 28, 34 are rejected under 35 U.S.C. 102(a) as being anticipated by Kaprelian (U.S. Patent No. 2,378,301).

Regarding claims 28, Kaprelian discloses a lens element for focusing incident luminous flux(fig 2, P), the lens element having, from the long conjugate distance side, a first concave surface to the long conjugate distance side(fig 2, **28**) and a second surface convex to a side opposite to the long conjugate distance side(fig 2, **23**) wherein the luminous flux passing through a peripheral part of the first surface is reflected once at a peripheral part of the second surface, is thereafter reflected a second time at a central part of the first surface and imaged on an optical axis of the lens element upon being reflected said second time(fig 2 and claim 7) .

Regarding claims 34, a modified Kaprelian wherein a marginal ray of the luminous

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flux reflected on the central part of the first surface is totally reflected at the central portion of the second surface due to total internal reflection(fig 2, claim 7).

Claim 29 is rejected under 35 U.S.C. 102(a) as being anticipated by Braun (U.S. Patent No. 4,121,890).

Regarding claim 29, Braun discloses a lens element having, from a long conjugate distance side: a plane surface with a first reflective coating on a central portion thereof and a light admitting area at the periphery of the first reflective coating(fig 1, 18), and a surface convex to a side opposite to the long conjugate distance side with a second reflective coating on a peripheral portion thereof(fig 1, 22) and a light transmissive region at the central portion thereof, wherein incident luminous flux passing through the light admitting area of said plane surface is reflected on the second reflective coating, is again reflected on the first reflective coating(fig 1, col 2, lines 50-55) and is imaged in the vicinity of the vertex of the convex surface(fig 1, 24).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 13, 14, 24, 30, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikemori (U.S. Patent No. 4,437,746) in view of Medina Pueruerta et al. (U.S. Patent No. 5,638,219).

Regarding claims 1, Ikemori discloses a lens element for focusing incident luminous flux at a predetermined position (fig 3, **A**), the lens element having a first convex surface (fig 3, **b2**) to the long conjugate distance side and a second convex surface (fig 3, **a2**) and a luminous flux passing through a peripheral part of the first surface is reflected at a peripheral part of the second surface, is again reflected at a central part of the first surface (fig 3) imaged on an optical axis of the lens (fig 3, **l**) and the lens is symmetrical (as shown by the reflecting light in figure 3). Ikemori does not disclose the second surface is aspherical. However, Medina Pueruerta et al. discloses the second surface is aspherical (col 3, line 24). It would have been obvious to one skilled in the art, at the time of the invention, to place the aspherical surface on the second surface of the lens, as shown by Medina Pueruerta et al., in the optical lens of Ikemori, since as shown by Medina Pueruerta et al., aspherical surfaces are commonly placed on the second surfaces of a lens so as to correct for spherical aberrations.

Regarding claims 2, a modified Ikemori, as detailed in claim rejection 1 above, does not disclose aspherical surfaces on both surfaces of the lens. However, Medina Pueruerta et al. discloses aspherical surfaces on both surfaces of the lens (col 3, line 24). It would have been obvious to one skilled in the art, at the time of the invention, to place aspherical surfaces on both sides of the lens, as shown by Medina Pueruerta et

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al., in the optical lens of Ikemori, since as shown by Medina Pueruerta et al., aspherical surfaces are commonly placed on both surfaces of a lens so as to correct for spherical aberrations.

Regarding claim 13, Ikemori discloses a lens element having a first convex surface (fig 3, the surface b2 rests on) to the long conjugate distance side thereof with a first reflectance coating on the central portion (fig 3, b2) and a light admitting area at the peripheral of the first reflective coating (fig 3), and a second convex surface on the opposite side thereof (fig 3, the surface a2 rests on) with a reflective coating on the peripheral portions thereof (fig 3, a2), wherein at least one of the first and second surfaces is convex. (fig 3, the surface b2 rests on), wherein incident luminous flux passing through the light admitting area of said first convex surface is totally reflected on the second reflective coating. is again totally reflected on the first reflective coating and is imaged in the vicinity of the vertex of the second aspherical convex surface (col 2, lines 30-40). Ikemori does not disclose the second surface is aspherical. However, Medina Pueruerta et al. discloses the second surface is aspherical (col 3, line 24). It would have been obvious to one skilled in the art, at the time of the invention, to place the aspherical surface on the second surface of the lens, as shown by Medina Pueruerta et al., in the optical lens of Ikemori, since as shown by Medina Pueruerta et al., aspherical surfaces are commonly placed on the second surfaces of a lens so as to correct for spherical aberrations.

Regarding claims 14, a modified Ikemori, as detailed in claim rejection 13 above, does not disclose aspherical surfaces on both surfaces of the lens. However, Medina

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Pueruerta et al. discloses aspherical surfaces on both surfaces of the lens (col 3, line 24). It would have been obvious to one skilled in the art, at the time of the invention, to place aspherical surfaces on both sides of the lens, as shown by Medina Pueruerta et al., in the optical lens of Ikemori, since as shown by Medina Pueruerta et al., aspherical surfaces are commonly placed on both surfaces of a lens so as to correct for spherical aberrations.

Regarding claims 24, a modified Ikemori, as detailed in claim rejection 13 above, does not disclose the lens is molded glass. However, Medina Pueruerta et al. the lens is molded glass (col 2, lines 10-15). It would have been obvious to one skilled in the art, at the time of the invention, to form the lens from a molded glass, as shown by Medina Pueruerta et al., in the optical lens of Ikemori, since as shown by Medina Pueruerta et al., lens are commonly formed from a molded glass so as to achieve the desired refractive properties of the lens.

Regarding claims 30, a modified Ikemori wherein a marginal ray of the luminous flux reflected on the central part of the first surface is totally reflected at the central portion of the second aspherical surface due to total internal reflection(fig 3, col 2, lines 30-40).

Regarding claims 32, a modified Ikemori wherein a marginal ray of the luminous flux reflected on the central part of the first surface is totally reflected at the central portion of the second aspherical convex surface due to total internal reflection(fig 3, col 2, lines 30-40).

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Claims 9, 10 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaprelian (U.S. Patent No. 2,378,301) in view of Medina Pueruerta et al. (U.S. Patent No. 5,638,219).

Regarding claims 9, Kaprelian discloses a lens element for focusing incident luminous flux at a predetermined position (fig 2, **P**), the lens element having, from the long conjugate distance side, a first concave surface to the long conjugate distance side (fig 2, **28**) and a second surface convex to a side opposite to the long conjugate distance side (fig 2, **23**) wherein the luminous flux passing through a peripheral part of the first surface is reflected at a peripheral part of the second surface, is again reflected at a central part of the first surface (fig 2). Kaprelian does not disclose the second surface is aspherical. However, Medina Pueruerta et al. discloses the second surface is aspherical (col 3, line 24). It would have been obvious to one skilled in the art, at the time of the invention, to place the aspherical surface on the second surface of the lens, as shown by Medina Pueruerta et al., in the optical lens of Kaprelian, since as shown by Medina Pueruerta et al., aspherical surfaces are commonly placed on the second surfaces of a lens so as to correct for spherical aberrations.

Regarding claims 10, a modified Kaprelian, as detailed in claim rejection 9 above, does not disclose aspherical surfaces on both surfaces of the lens. However, Medina Pueruerta et al. discloses aspherical surfaces on both surfaces of the lens (col 3, line 24). It would have been obvious to one skilled in the art, at the time of the invention, to place aspherical surfaces on both sides of the lens, as shown by Medina Pueruerta et al., in the optical lens of Kaprelian, since as shown by Medina Pueruerta et

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al., aspherical surfaces are commonly placed on both surfaces of a lens so as to correct for spherical aberrations.

Regarding claims 31, a modified Kaprelian wherein a marginal ray of the luminous flux reflected on the central part of the first surface is totally reflected at the central portion of the second aspherical surface due to total internal reflection(fig 2, claim 7).

Claims 21-23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikemori (U.S. Patent No. 4,437,746), as detailed in claim rejection 25 above, and view of Medina Pueruerta et al.(U.S. Patent No. 5,638,219).

Regarding claims 21, Ikemori, as detailed in claim rejection 25 above, does not disclose aspherical surfaces on both surfaces of the lens. However, Medina Pueruerta et al. discloses aspherical surfaces on both surfaces of the lens (col 3, line 24). It would have been obvious to one skilled in the art, at the time of the invention, to place aspherical surfaces on both sides of the lens, as shown by Medina Pueruerta et al., in the optical lens of Ikemori, since as shown by Medina Pueruerta et al., aspherical surfaces are commonly placed on both surfaces of a lens so as to correct for spherical aberrations.

Regarding claims 22, a modified Ikemori, as detailed in claim rejection 21 above, does not disclose the first surface is aspherical. However, Medina Pueruerta et al. discloses the first surface is aspherical (col 3, line 24). It would have been obvious to one skilled in the art, at the time of the invention, to place the aspherical surface on the

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first surface of the lens, as shown by Medina Pueruerta et al., in the optical lens of Ikemori, since as shown by Medina Pueruerta et al., aspherical surfaces are commonly placed on the first surfaces of a lens so as to correct for spherical aberrations.

Regarding claims 23, a modified Ikemori, as detailed in claim rejection 21 above, does not disclose the second surface is aspherical. However, Medina Pueruerta et al. discloses the second surface is aspherical (col 3, line 24). It would have been obvious to one skilled in the art, at the time of the invention, to place the aspherical surface on the second surface of the lens, as shown by Medina Pueruerta et al., in the optical lens of Ikemori, since as shown by Medina Pueruerta et al., aspherical surfaces are commonly placed on the second surfaces of a lens so as to correct for spherical aberrations.

Regarding claims 26, Ikemori, as detailed in claim rejection 25 above, does not disclose the lens is molded glass. However, Medina Pueruerta et al. the lens is molded glass (col 2, lines 10-15). It would have been obvious to one skilled in the art, at the time of the invention, to form the lens from a molded glass, as shown by Medina Pueruerta et al., in the optical lens of Ikemori, since as shown by Medina Pueruerta et al., lenses are commonly formed from a molded glass so as to achieve the desired refractive properties of the lens.

Allowable Subject Matter

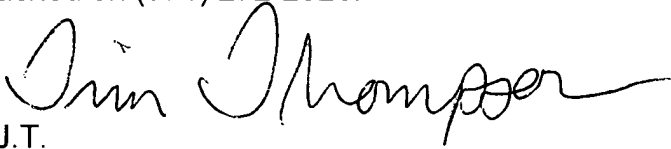
Claim 35 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of

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the base claim and any intervening claims. With the important feature being the light is totally reflected.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Thompson whose telephone number is (571) 272-2342. If the examiner can not be reached his supervisor, Georgia Epps, can be reached on (571) 272-2328.


T.J.T.
3/11/04